

REMARKS

This amendment is being filed in response to the Office Action having a mailing date of November 1, 2007. Various claims are amended as shown. New claims 29-30 have been added. No new matter has been added. With this amendment, claims 1-30 are pending in the application.

I. Preliminary comments

The present Office Action indicated that claims 6, 11-14, and 25-27 would be allowable if rewritten in independent form. The Examiner is thanked for this indication of allowable subject matter.

At this time, claims 6, 11-14, and 25-27 are not yet being rewritten into independent form herein. However, it would be very much appreciated if the Examiner provides a later opportunity to rewrite said claims 6, 11-14, and 25-27 into independent form, if the rejections of their base claims are still maintained after the Examiner has had an opportunity to consider the arguments as presented below.

Various claims are amended as shown above to provide more appropriate antecedent basis and/or to otherwise place such claims in better form.

II. Discussion of the claims and cited reference

The present Office Action has rejected claims 1-5, 7-10, 15-24, and 28 as being anticipated by Arai (U.S. Patent No. 7,224,672). For the reasons set forth below, it is kindly requested that these rejections be reconsidered and withdrawn.

A. Independent claim 1

Independent claim 1 recites, *inter alia*, “detecting such criterion includes obtaining an estimation of a length of a line” and “in response to said detection, disabling a number of carriers in order to establish the asymmetric operating mode.” It is respectfully submitted that Arai does not meet these limitations.

Specifically, Arai addresses the situation when a service provider has to decide whether it is practical or possible to provide/provision broadband communication services to a customer. Typically as Arai describes in column 3, lines 3-35, a modem is first installed in the customer premises and then a connection check is performed on the modem to determine whether sufficient service quality is present. If the service quality is unsatisfactory, the provider must send out a worker to measure line characteristics in order to determine the causes for the poor service quality—this results in great costs and effort for the provider, since the modem was already first installed (and thus costs have been incurred for installation) and broadband communication services have already been provisioned, even before it was determined whether or not service quality was going to be adequate.

Accordingly to address these problems, Arai provides a tool to enable the line characteristics to be measured ahead of time, before broadband communication services are provisioned in the first place. In this manner, the provider avoids the risks and initial expenses in setting up broadband communication services that may ultimately be determined to be of unsatisfactory service quality. Thus, the provider can decide ahead of time whether or not it will be practical or possible to provision/install broadband communication services. Arai explains the following in his column 3, line 39 to column 4, line 65 (emphasis ours):

“The object of the present invention is to provide an xDSL modem capable of automatically collecting characteristics of a subscriber line connected thereto prior to a start of a broadband communication service ... Still another object of the present invention is to provide a key barometer for precisely estimating a line length of a subscriber line between a local switch and an xDSL modem of a customer, and deciding whether or not provision of a broadband communication service by use of an xDSL system is possible. Still another object of the present invention is to make it possible to autonomously measure, by a function equipped in an xDSL modem, a transmission loss concerning an analog signal on a subscriber line connected to the xDSL modem. Thus, since the line length

of the subscriber line can be estimated, it is no longer necessary to send workers from the provider to measure line length, and a risk that the provider had in setting up services can be drastically reduced ... A still further object of the present invention is to make it unnecessary for a provider to send a maintenance worker for a measuring work, by collecting beforehand information concerning a line length of a subscriber line which is a very important barometer in estimating service quality of a broadband communication service by a xDSL system as well as concerning interference from an ISDN line near the subscriber line, and to drastically reduce risks that the provider had in setting up the broadband communication service. By this, the spread of the broadband communication service is strongly promoted ... Being able to measure transmission loss over a wide frequency band is very effective in evaluating a service quality that can be expected on a line connected to the xDSL modem.”

Thus from the above-quoted passages, it is abundantly clear that Arai performs measurement of line length in order to determine whether or not to provision broadband communication services.

In contrast to Arai, claim 1 requires that in response to the detection (which includes estimation of line length), a number of carriers are disabled in order to establish the asymmetric operating mode. For example, in the non-limiting and non-exhaustive disclosed embodiments by the present applicant, the measurement/estimation of the line length is used as a tool for controlling the switching of the modem from VDSL mode to a ADSL mode, and more particularly, to switch off (disable) some sub-carriers of the modem. It is respectfully submitted that nowhere does Arai disclose, teach, or suggest disabling of a number of carriers of a modem in order to establish the asymmetric operating mode.

For example and as explained above, Arai uses the measured line length to determine whether or not to provision broadband communication services—he is completely

silent as to the two features of “disabling a number of carriers” in order to “establish the asymmetric operating mode” as required by claim 1.

The present Office Action has cited Arai’s column 3, lines 50-55 and column 6, line 58 to column 7, line 6 in rejecting claim 1. These passages are reproduced below (emphasis ours):

“Still another object of the present invention is to provide a key barometer for precisely estimating a line length of a subscriber line between a local switch and an xDSL modem of a customer, and deciding whether or not provision of a broadband communication service by use of an xDSL system is possible ... In the second xDSL modem, the requiring unit 112 sends out a requiring signal to the provider by the POTS, just as an analog signal used for a telephone communication is sent out, and obtains an evaluation barometer indicating the transmission characteristic of the subscriber line, based on the reception result of the analog signal transmitted by the local switch 101 in response to the requiring signal. Here, the line length of the subscriber line 102 connecting the local switch 101 and the xDSL modem 103 can be precisely estimated by making effective use of the fact that a characteristic of the analog signal transmitted from the local switch 101 onto the subscriber line is strictly prescribed by a spec of the local switch 101 and the fact that of a transmission line used generally as a subscriber line, a relation between the line length and an attenuation rate of the analog signal is known.”

Arai’s use of the word “barometer” above is particularly significant, in that the measurement of the length of the subscriber line is in no way related to any kind of “control” of a xDSL modem by disabling carriers in order to establish an asymmetric operating mode and/or for allowing top-down operability. Thus, it is again abundantly clear from the above-quoted passages of Arai that he is completely silent with regards to “disabling a number of carriers in

order to establish the asymmetric operating mode” as recited in claim 1. Instead, the above-quoted passages of Arai make it clear that he uses line measurement data to decide whether or not it is possible to provision broadband communication services, rather than “disabling carriers in order to establish the asymmetric operating mode.”

In other words, Arai’s deciding whether or not to establish broadband communication services cannot be reasonably equated with “disabling carriers in order to establish the asymmetric operating mode” of claim 1, and the present Office Action has not presented any reasonable explanation as to how such features can be interpreted to be the same thing.

Hence, it is respectfully submitted that claim 1 is allowable over Arai.

To make claim 1 even further allowable over Arai, claim 1 is amended to clarify that the asymmetric operating mode being established is an operating mode of the modem. Nowhere does Arai disclose, teach, or suggest disabling of carriers to establish an asymmetric operating mode of a modem. Instead, Arai measures line length to determine whether or not to provision broadband communication services.

B. Independent claims 7, 16, and 21

Independent claim 7 as amended herein recites language generally corresponding to claim 1 discussed above, in means-plus-function language. For example, claim 8 recites a modem that includes “means for controlling, based on said detection of said criterion, disablement of a number of carriers in order to establish the asymmetric operating mode.” As previously explained above, Arai does not meet these limitations, since Arai uses his line measurement data to determine whether or not to provision broadband communication services, rather than to disable carriers in order to establish an asymmetric operating mode of a modem. Hence, claim 7 is allowable over Arai.

Independent claim 16 recites, *inter alia*, “configuring a modem for interoperability between first and second xDSL operating modes.” It is respectfully submitted that Arai does not disclose, teach, or suggest such a modem that can be configured for interoperability between two xDSL operating modes. Claim 16 further recites, *inter alia*,

“disabling a number of carriers associated with the second operating mode to establish the first operating mode.” As previously alluded to above, Arai does not perform the recited disabling of carriers in order to switch from one mode to another. Rather, he measures line length in order to decide whether to provision broadband communication services. Thus, claim 16 is allowable over Arai.

Independent claim 21 also recites a modem having, *inter alia*, interoperability between first and second xDSL modes, and “disable a number of carriers associated with the second mode to establish the first mode, in response to the criterion detected by the first component.” As previously explained above, Arai does not meet these limitations for a modem with interoperability between two xDSL modes and limitations pertaining to the disablement of carriers. Hence, claim 21 is also allowable.

C. New dependent claims

New dependent claims 29-30 recite, *inter alia*, top-down interoperability between said asymmetric operating mode and symmetric operation/operating mode. Interoperability between two operating modes of a modem, in particular top-down interoperability, is nowhere disclosed, taught, or suggested by Arai.

Hence, claims 29-30 are also allowable.

III. Conclusion

If the attorney of record (Dennis M. de Guzman) has overlooked a teaching in any of the cited references that is relevant to the allowability of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact Mr. de Guzman at (206) 622-4900.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Application No. 10/813,991
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All of the claims remaining in the application are believed to be allowable.
Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,
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